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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/674,983	09/30/2003	Mahesh S. Natu	42P16548	4977

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BLAKELY SOKOLOFF TAYLOR & ZAFMAN
12400 WILSHIRE BOULEVARD
SEVENTH FLOOR
LOS ANGELES, CA 90025-1030

EXAMINER

STOYNOV, STEFAN

ART UNIT	PAPER NUMBER
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2116

DATE MAILED: 02/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/674,983

Applicant(s)

NATU, MAHESH S.

Examiner

Stefan Stojnov

Art Unit

2116

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,8-10 and 17-26 is/are rejected.
- 7) ☒ Claim(s) 2-7, 11-16 and 27-30 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 September 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>02/02/2004</u> . | 6) <input type="checkbox"/> Other: _____ |

Drawings

The drawings are objected to because Figures 1-5 contain hand-written text, which is hard to understand.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 19-25 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claim 19 is not limited to tangible embodiments. In view of Applicant's disclosure, specification page 12, paragraph 0048, lines 8-12, the machine-readable medium is not limited to tangible embodiment, instead being defined as including both tangible embodiments (e.g. ROM (EPROM), floppy diskette, CD-ROM) and intangible embodiment (e.g. radio frequency link). As such, the claim is not limited to statutory subject matter and is therefore non-statutory.

To overcome this type of rejection the claim needs to be amended to include only the physical computer media and not a transmission media or any intangible or non-functional media (i.e. "A machine-readable storage medium having stored thereon instructions, ... etc.").

The rejection for claims 20-25, being dependant on claim 19, is based on the same ground of rejection.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.

4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1, 8-10, 17-19, and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chu et al., U.S. Patent Appl. Pub. No. 20003/0172228 in view of Lin et al., U.S. Patent No. 6,192,456.

Re claims 1 and 19 Chu discloses a method and machine-readable medium having stored thereon instructions, which when executed by a machine cause the machine to perform the following operations comprising:

running a basic input/output system (BIOS) of a computing system;

[Chu does not specifically state running a basic input/output system (BIOS). However, Chu discloses execution of typical operations after system power-up using POST and determining whether an extended image indicator is set using POST (paragraph 0041, lines 1-7) followed by partition table configuration (if required) and booting the operating system (paragraph 7-15, FIG. 7A). Thus, Chu discloses POST operations (under the control of BIOS) prior of booting the operating system, and thus Chu discloses running a basic input/output system (BIOS) of a computing system].

reading a non-volatile memory coupled to the BIOS;

[Chu does not specifically state reading a non-volatile memory coupled to the BIOS. However, Chu discloses an extended partition table (EPP) storing multiple partition entries (partition information) (paragraph 0020, lines 1-4, lines 9-12, FIG. 2B) for selection in order to build the desired partition configuration in the computer system (paragraph 0021, lines 8-15) and mapped to the master boot record using the utility (paragraph 0024, lines 21-23) prior of booting the operating system under the control of

the BIOS as described above. In, addition Chu discloses storing the EPP table on nonvolatile storage separate from the hard disk (paragraph 0027, lines 10-12, FIG. 3, 106'). Thus, the partition configuration operations under the control of the BIOS access a non-volatile storage (memory), and thus Chu discloses reading a non-volatile memory coupled to the BIOS].

Chu fails to disclose determining if legacy partition address data is not present for a disk partition identified in the non-volatile memory, and if legacy partition address data is not present for the disk partition, executing a Legacy option read only memory (OPROM).

Lin teaches populating the master boot record (MBR) with boot sector address data for partitions using the cylinder-head-sector (CHS) (i.e. legacy partition address) and logical block address (LBA) (i.e. non-legacy partition address) format (column 6, lines 13-16). Lin further teaches determining whether an option-ROM with a BIOS is present on a controller card and populating each of the boot sectors with F6 values for all of the variables of the boot sector (column 6, lines 16-22). On the other hand, if no option-ROM is present, each of the boot sectors is populated with a non-F6 value for at least one of the variables of the boot sector (column 6, lines 22-26). In addition, Lin teaches using the BIOS from the option-ROM to enable the controller card to function as a boot device (column 1, lines 43-45). In Lin, the above-mentioned method is used to prevent incorrectly misplacing of some boot sectors on the disk caused by the use of CHS especially when the address of the boot sector is beyond the first gigabyte of disk space (column 2, lines 59-66). Thus, locating a partition located beyond the first

gigabyte without corrupting data of the other partitions is achieved (column 3, lines 27-30).

It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to use the method of detecting the presence of option-ROM and executing the BIOS code stored within the option-ROM when such option-ROM is detected, as suggested by Lin with the method and machine-readable medium having stored thereon instructions, which when executed by a machine cause the machine to perform disclosed by Chu in order to implement determining if legacy partition address data is not present for a disk partition identified in the non-volatile memory, and if legacy partition address data is not present for the disk partition, executing a Legacy option read only memory (OPROM). One of ordinary skill in the art would be motivated to do so in order to prevent corruption of data when the partition boot sector is located beyond the first gigabyte on the disk space.

Re claims 10 and 26, Chu discloses an apparatus and system comprising:

a basic input/output system (BIOS);

[Chu does not specifically state a basic input/output system (BIOS). However, Chu discloses execution of typical operations after system power-up using POST and determining whether an extended image indicator is set using POST (paragraph 0041, lines 1-7) followed by partition table configuration (if required) and booting the operating system (paragraph 7-15, FIG. 7A). Thus, Chu discloses POST operations (under the control of BIOS) prior of booting the operating system, and thus Chu discloses a basic input/output system (BIOS) of a computing system].

a non-volatile memory coupled to the BIOS;

[Chu does not specifically state a non-volatile memory coupled to the BIOS.

However, Chu discloses an extended partition table (EPP) storing multiple partition entries (partition information) (paragraph 0020, lines 1-4, lines 9-12, FIG. 2B) for selection in order to build the desired partition configuration in the computer system (paragraph 0021, lines 8-15) and mapped to the master boot record using the utility (paragraph 0024, lines 21-23) prior of booting the operating system under the control of the BIOS as described above. In, addition Chu discloses storing the EPP table on nonvolatile storage separate from the hard disk (paragraph 0027, lines 10-12, FIG. 3, 106'). Thus, the partition configuration operations under the control of the BIOS access a non-volatile storage (memory), and thus Chu discloses a non-volatile memory coupled to the BIOS].

Chu fails to disclose a Legacy option read only memory (OPROM), wherein the BIOS determines if a legacy partition address data is not present for a disk partition in the non-volatile memory, and if legacy partition address is not present for the disk partition, the BIOS causes the execution of the Legacy OPR0M.

Lin teaches populating the master boot record (MBR) with boot sector address data for partitions using the cylinder-head-sector (CHS) (i.e. legacy partition address) and logical block address (LBA) (i.e. non-legacy partition address) format (column 6, lines 13-16). Lin further teaches determining whether an option-ROM with a BIOS is present on a controller card and populating each of the boot sectors with F6 values for all of the variables of the boot sector (column 6, lines 16-22). On the other hand, if no

option-ROM is present, each of the boot sectors is populated with a non-F6 value for at least one of the variables of the boot sector (column 6, lines 22-26). In addition, Lin teaches using the BIOS from the option-ROM to enable the controller card to function as a boot device (column 1, lines 43-45). In Lin, the above-mentioned method is used to prevent incorrectly misplacing of some boot sectors on the disk caused by the use of CHS especially when the address of the boot sector is beyond the first gigabyte of disk space (column 2, lines 59-66). Thus, locating a partition located beyond the first gigabyte without corrupting data of the other partitions is achieved (column 3, lines 27-30).

It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to use the apparatus and system for detecting the presence of option-ROM and executing the BIOS code stored within the option-ROM when such option-ROM is detected, as suggested by Lin with the apparatus and system disclosed by Chu in order to implement Legacy option read only memory (OPROM) wherein the BIOS determines if a legacy partition address data is not present for a disk partition in the non-volatile memory, and if legacy partition address is not present for the disk partition, the BIOS causes the execution of the Legacy OPRM. One of ordinary skill in the art would be motivated to do so in order to prevent corruption of data when the partition boot sector is located beyond the first gigabyte on the disk space.

Re claims 8 and 17, Chu further teaches the method and apparatus, wherein the disk partition identified in the non-volatile memory that does not include legacy partition

address data does include non-legacy address partition data (paragraph 0022, lines 1-10).

Re claims 9 and 18, Lin further teaches the method and apparatus as per claims 8 and 17, wherein the non-legacy address partition data is address data compatible with logical block addressing (LBA) scheme (column 3, lines 39-43, column 6, lines 13-16).

Allowable Subject Matter

Claims 2-7, 11-16, and 27-30 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

Re claims 2, 11, and 27, the prior art fails to disclose or suggest, individually or in combination the method, apparatus, and system as per claims 1, 10, and 26, wherein "executing the Legacy OPRM further comprises obtaining legacy partition address data for the disk partition that does not have an associated legacy partition address data".

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stefan Stoykov whose telephone number is (571) 272-4236. The examiner can normally be reached on 8:00AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynne Browne can be reached on (571) 272-3670. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SS


LYNNE H. BROWNE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100